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Experimental Platform for Magnetized HEDP Science at Omega P.-Y. CHANG, D.H. BARNAK, M. HOHENBERGER, R. BETTI, Laboratory for Laser Energetics and Fusion Science Center, U. of Rochester, A. AGLIATA, W. BITTLE, G. FIKSEL, D. HASSET, D. LONOBILE, M.J. SHOUP III, C. TAYLOR, Laboratory for Laser Energetics, U. of Rochester — Magnetized high-energy-density physics (HEDP) is an increasingly active research area with relevance to inertial confinement fusion (ICF), astrophysical sciences and basic plasma physics. A compact, self-contained magnetic-field generator MIFEDS (magneto-inertial fusion electrical discharge system) capable of providing a magnetic field up to 10 T was developed at the Laboratory for Laser Energetics and has been used at the Omega Laser Facility in recent experiments. The MIFEDS device has been upgraded to quadruple the stored energy and to double the magnetic field. In addition, the reliability of the device and the user interface has been improved. The device is now compatible with both OMEGA and OMEGA EP lasers and allows for fielding a wide variety of ICF, HEDP, and astrophysical experiments. Details of these new capabilities are provided and detail plans for experiments at Omega are shown. This work was supported by the U.S. Department of Energy Office of Inertial Confinement Fusion under Cooperative Agreement No. DE-FC52-08NA28302.

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